

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:

Rainer HAINBERGER et al.

Application No.:

Group Art Unit:

Filed: (Concurrently)

Examiner:

For: OPTICAL REGENERATOR IN OPTICAL FIBER COMMUNICATION SYSTEM

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 CFR § 1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the subject application.

1. Enclosures accompanying this Information Disclosure Statement are:

- 1a. ☒ Form PTO-1449.
- 1b. ☒ Copy(ies) of IDS citation(s), except for U.S. Patents and U.S. Patent Application publications.
- 1c. ☒ English language copy of a communication(s) from a foreign Patent Office or a PCT International Search Report.
- 1d. ☐ English language translation (complete, Abstract or relevant portion(s)) attached to non-English language publications as indicated on the attached Form PTO-1449.
- 1e. ☒ Explanations of Relevancy of References (ATTACHMENT 1(e), hereto) for providing a concise explanation of non-English publications.

2. ☒ In accordance with 37 CFR § 1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is

(Check appropriate Items 2a, 2b, 2c and/or 2d)

- 2a. ☒ satisfied for the non-English language publication(s) cited on the enclosed "English language version of the search report or action which indicates the degree of relevance found by the foreign office". (See MPEP § 609, Minimum Requirements for an Information Disclosure Statement, Part A(3): Concise Explanation of Relevance, 8th Ed., Rev. 2)
- 2b. ☐ set forth in the application.

<b>FORM PTO-1449</b>  <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE STATEMENT</b> <i>(Use several sheets if necessary)</i>	<b>ATTORNEY DOCKET NO.</b> 1826.1088	<b>APPLICATION NO.</b>
	<b>FIRST NAMED INVENTOR</b> Rainer HAINBERGER et al.	
	<b>FILING DATE</b> (Concurrently)	<b>GROUP ART UNIT</b>

### U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	2001/21288	09/13/2001	Watanabe et al.			
	AB	5,350,913	09/27/1994	Aoshima et al.			
	AC	6,141,129	10/31/2000	Mamyshev			
	AD	6,433,899	08/13/2002	Anslow et al.			
	AE	5,657,154	08/12/1997	Yoneyama			
	AF	6,504,637	01/07/2003	Yokoyama et al.			

### FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	<u>TRANSLATION</u> YES NO		ABSTRACT
	AG	8-288916	11/01/1996	Japan		X	

### OTHER REFERENCES (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

			<u>TRANSLATION</u> YES NO	
	AH	Neal S. Bergano, "Undersea Amplified Lightwave Systems Design", in Kaminov et al., Optical Fiber Telecommunications, Volume IIIA, Chapter 10, 1997, pp. 302-335		
	AI	N. S. Bergano et al., "Margin Measurements in Optical Amplifier Systems", IEEE Photonics Technology Letters, Vol. 5, No. 3, March 1993, pp. 304-306		
	AJ	Akira Hirano et al., "All-Optical Discrimination Based on Nonlinear Transmittance of MQW Semiconductor Optical Gates", Journal of Lightwave Technology, Vol. 17, No. 5, May 1999, pp. 873-884		
	AK	Ernesto Ciaramella et al., "All-Optical Signal Reshaping via Four-Wave-Mixing in Optical Fibers", IEEE Photonics Technology Letters, Vol. 12, No. 7, July 2000, pp. 849-851		
	AL	Mingshan Zhao et al., "All-Optical 2R Regeneration Based on Polarization Rotation in a Linear Optical Amplifier", IEEE Photonics Technology Letters, Vol. 15, No. 2, February 2003, pp. 305-307		
	AM	P. V. Mamyshev, "All-Optical Data Regeneration Based on Self-Phase Modulation Effect", ECOC'98, September 1998, Madrid, Spain, pp. 475-476		

<b>EXAMINER</b> /Cody Lamb/	<b>DATE CONSIDERED</b> 04/16/2008
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.L./

**ATTACHMENT 1(e)**

<b>EXPLANATIONS OF RELEVANCY OF REFERENCES</b>	ATTORNEY DOCKET NO. 1826.1088	APPLICATION NO.
	FIRST NAMED INVENTOR Rainer HAINBERGER et al.	
	FILING DATE (Concurrently)	GROUP ART UNIT

References AA and AB are cited on the attached International Search Report.

References AC – AM are discussed on the specification.

References AG corresponds to Reference AE.

- 2c. ☐ satisfied for the non-English language publication(s) indicated on the attached PTO-1449 as having an English language translation (complete, Abstract or relevant portion(s)) attached thereto.
- 2d. ☒ enclosed as Attachment 1(e), hereto.
3. No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than search report(s) from a counterpart foreign application or a PCT International Search Report, if submitted herewith). 37 CFR §§ 1.97(g) and (h).

Respectfully submitted,

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